

Abstract of the Disclosure

A new ionization source named Surface Activated Chemical Ionization (SACI) has been discovered and used to improve the sensitivity of the mass spectrometer. According to this invention the ionization chamber of a mass spectrometer is heated and contains a physical new surface to improve the ionization process. The analyte neutral molecules that are present in gas phase are ionized on this surface. The surface can be made of various materials and may also chemically modified so to bind different molecules. This new ionization source is able to generate ions with high molecular weight and low charge, an essential new key feature of the invention so to improve sensitivity and reduce noise. The new device can be especially used for the analysis of proteins, peptides and other macromolecules. The new invention overcomes some of the well known and critical limitations of the Electrospray (ESI) and Matrix Assisted Laser Desorption Ionization (MALDI) mass spectrometric techniques.

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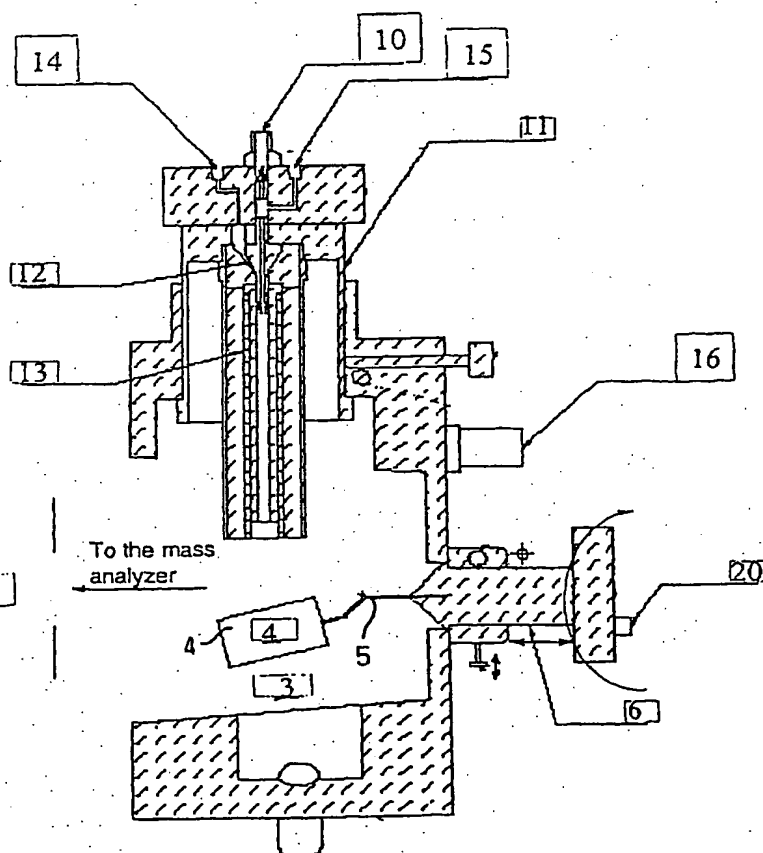
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(54) Title: IONIZATION SOURCE FOR MASS SPECTROMETRY ANALYSIS



(57) Abstract: An ionization source named Surface Activated Chemical Ionization (SACI) has been discovered and used to improve the sensitivity of the mass spectrometer. According to this invention the ionization chamber of a mass spectrometer is heated and contains a surface to improve the ionization process. The analyte neutral molecules that are present in gas phase are ionized on this surface. This ionization source is able to generate ions with high molecular weight and low charge, an essential key feature of the invention so to improve sensitivity and reduce noise.

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